

What is claimed is:

1. A system comprising:  
a shaft;  
5 an upper bearing disposed on the shaft;  
a lower bearing disposed on the shaft; and  
at least one actuator arm disposed on the shaft,  
where the system does not include a sleeve for receiving the bearings.
- 10 2. The system of claim 1, wherein the upper bearing and the lower bearing have  
equivalent inner bores.
- 15 3. The system of claim 1, wherein the upper bearing and the lower bearing have different  
inner bores.
4. The system of claim 1, wherein the upper bearing and the lower bearing have  
equivalent outer diameters.
- 20 5. The system of claim 1, wherein the upper bearing and the lower bearing have different  
outer diameters.
6. The system of claim 1, wherein the upper bearing overlaps a disk of a hard disk drive.
7. The system of claim 1, wherein the lower bearing overlaps a disk of a hard disk drive.
- 25 8. An actuator arm system for a hard disk drive, the system comprising:  
a shaft;  
a lower bearing disposed on the shaft;  
an upper bearing disposed on the shaft; and

an actuator arm disposed between the upper bearing and the lower bearing, where the upper bearing and the lower bearing prevent the actuator arm from moving along an axis of the shaft.

5           9. The system of claim 8, wherein the system does not include a sleeve to receive the bearings.

10           10. The system of claim 8, wherein the shaft includes a flange, the flange separating the lower bearing from the upper bearing.

11. The system of claim 8, wherein the actuator arm is shaped such that a gap exists between the actuator arm and the shaft.

15           12. The system of claim 8, wherein the upper bearing includes an inner race, the inner race being attached to the shaft with an adhesive.

20           13. A method of assembling an actuator arm system for a hard disk drive comprising:  
placing the lower bearing on the shaft;  
placing the actuator arm on the lower bearing;  
placing the upper bearing on the shaft;  
applying an adhesive between an inner race of the upper bearing and the shaft;  
applying an axial preload force to the inner race of the upper bearing;  
curing the adhesive; and  
releasing the preload force.

25           14. An actuator arm system for a hard disk drive, the system comprising:  
a base, the base having a hole;  
a lower bearing disposed in the hole;  
an upper bearing disposed in the hole;  
30           a shaft disposed in the lower bearing and in the upper bearing; and  
an actuator arm disposed on the shaft.

15. The system of claim 14, wherein the base comprises a frame of the hard disk drive.

5 16. The system of claim 14, wherein the shaft includes a flange, the flange separating the lower bearing from the upper bearing..

17. The system of claim 14, wherein the actuator arm is attached to the shaft with a mechanical fastener.

10 18. The system of claim 14, wherein the actuator arm is attached to the shaft with an adhesive.

19. The system of claim 14, wherein the upper bearing includes an outer race, the outer race being attached to the hole with an adhesive.

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20. A method of assembling an actuator arm system for a hard disk drive comprising:  
placing the lower bearing in the hole;  
placing the shaft in the lower bearing;  
placing the upper bearing in the hole and on the shaft;  
20 applying an adhesive between an outer race of the upper bearing and the hole;  
applying an axial preload force to the outer race of the upper bearing;  
curing the adhesive;  
releasing the preload force; and  
attaching the actuator arm to the shaft.

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21. A hard disk drive comprising:  
a frame;  
a disk for storing binary data; and  
a read-write head actuator arm pivot assembly, where at least one bearing of the pivot  
30 assembly overlaps the disk.